APPENDIX A TO PART 72—METHODOLOGY FOR ANNUALIZATION OF EMISSIONS LIMITS

For the purposes of the Acid Rain Program, 1985 emissions limits must be expressed in pounds of SO_2 per million British Thermal Unit of heat input (lb/mmBtu) and expressed on an annual basis.

Annualization factors are used to develop annual equivalent SO_2 limits as required by section 402(18) of the CAA. Many emission limits are enforced on a shorter term basis (or averaging period) than annually. Because of the variability of sulfur in coal and, in some cases, scrubber performance, meeting a particular limit with an averaging period of less than a year and at a specified statutory emissions level would require a lower annual average SO_2 emission rate (or annual equivalent SO_2 limit) than would the shorter term statutory limit. EPA has selected a compliance level of one exceedance per 10 years. For example, an SO_2 emission limit of 1.2 lbs/MMBtu, enforced for a scrubbed unit over a 7-day averaging period, would result in an annualized SO_2 emission limit of 1.16 lbs/MMBtu. In general, the shorter the averaging period, the lower the annual equivalent would be. Thus, the annualization of limits is established by multiplying each federally enforceable limit by an annualization factor that is determined by the averaging period and whether or not it's a scrubbed unit.

TABLE A–1—SO_2 EMISSION AVERAGING PERIODS AND ANNUALIZATION FACTORS

Definition	Annualization factor	
	Scrubbed Unscrubbed	
	Unit	Unit
Oil/gas unit	1.00	1.00
<=1 day	0.93	0.89
1 week	0.97	0.92
30 days	1.00	0.96
90 days	1.00	1.00
1 year	1.00	1.00
Not specified	0.93	0.89
At all times	0.93	0.89
Coal unit: No Federal limit or limit unknown	1.00	1.00

APPENDIX B TO PART 72—METHODOLOGY FOR CONVERSION OF EMISSIONS LIMITS

For the purposes of the Acid Rain Program, all emissions limits must be expressed in pounds of SO_2 per million British Thermal Unit of heat input (lb/mmBtu).

The factor for converting pounds of sulfur to pounds of SO_2 is based on the molecular weights of sulfur (32) and SO_2 (64). Limits expressed as percentage of sulfur or parts per million (ppm) depend on the energy content of the fuel and thus may vary, depending on several factors such as fuel heat content and atmospheric conditions. Generic conversions for these limits are based on the assumed average energy contents listed in table A–2. In addition, limits in ppm vary with boiler operation (e.g., load and excess air); generic conversions for these limits assume, conservatively, very low excess air. The remaining factors are based on site-specific heat rates and capacities to develop conversions for Btu per hour. Standard conversion factors for residual oil are 42 gal/bbl and 7.88 lbs/gal.

TABLE B–1—CONVERSION FACTORS

[Emission limits converted to lbs SO_2/MMBtu by multiplying as below]

Unit measurement	Plant fuel type			
	Bituminous coal	Subbituminous coal	Lignite coal	Oil
Lbs sulfur/ MMBtu	2.0	2.0	2.0	2.0
% sulfur in fuel	1.66	2.22	2.86	1.07
Ppm SO_2	0.00287	0.00384	.....	0.00167
Ppm sulfur in fuel	.....	.....	.....	0.00334
Tons SO_2/hour	2,000,000/(HEATRATE*SUMNDCAP*capacity factor) [1]			
Lbs SO_2/hour	1,000/(HEATRATE*SUMNDCAP*capacity factor) [1]			

[1] In these cases, if the limit was specified as the "site" limit, the summer net dependable capability for the entire plant is used; otherwise, the summer net dependable capability for the unit is used. For units listed in the NADB, "HEATRATE" shall be that listed in the NADB under that field and "SUMNDCAP" shall be that listed in the NADB under that field. For units not listed in the NADB, "HEATRATE" is the generator net full load heat rate reported on Form EIA–860 and "SUMNDCAP" is the summer net dependable capability of the generator (in MWe) as reported on Form EIA–860.